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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,513	03/29/2001	Alex Ruan	1-1	5445

22046 7590 12/19/2003

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EXAMINER

PAYNE, DAVID C

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,513

Applicant(s)

RUAN ET AL.

Examiner

David C. Payne

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Fatehi et al. US 6,192,172 B1 (Fatehi-172).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e).

This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor

of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Fatehi-172 disclosed (Figure 3)

An apparatus for use in an optical network for providing specified communications signals to targeted recipients, said apparatus comprising: one or more cross-connect devices (300, 386, 388) for receiving communication signals on individual communication paths (373, 375, 377); and one or more optical multiplexer units having inputs (378, 380, 382) respectively coupled to outputs of said cross-connect devices, wherein said cross-connect devices are operable to selectively distribute said communication signals on said individual communications paths to none, some or all inputs of said optical multiplexer units for distribution to said targeted recipients (e.g., col./line: 2/5-15).

Regarding claim 11, Fatehi-172 disclosed wherein said cross-connect devices are MEMs devices (e.g., col./line: 9/27-31).

3. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Fatehi et al. US 5,959,767 (Fatehi-767).

Fatehi-767 disclosed (Figure 4)

An apparatus for use in an optical network for providing specified communications signals to targeted recipients, said apparatus comprising: one or more cross-connect devices (403-1 to 403-M) for receiving communication signals on individual communication paths (401-1 to 401-M); and one or more optical multiplexer units having inputs (404-1 to 404-M) respectively coupled to outputs of said cross-connect devices, wherein said cross-connect devices are operable to selectively distribute said communication signals on said individual communications paths to none, some or all inputs of said optical multiplexer units for distribution to said targeted recipients (e.g., col./line: 5/45-67).

Regarding claim 7

Fatehi-767 disclosed wherein said cross-connects include M inputs and said optical multiplexers include N outputs, said connections between said cross-connect devices and said optical

multiplexer units being divided into M/N groups (Fatehi - figure 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi et al. US 5,959,767 (Fatehi-767) in view of Pimpinella US 6,396,573 B1 (Pimpinella).

Regarding claim 2,

Fatehi-767 does not disclose that the apparatus is used within a passive optical network (PON). Pimpinella disclosed a CATN PON (figure 2). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Fatehi apparatus in the Pimpinella distribution system to gain the benefits of a loss-less broadcasting system for WDM networks such as PONs, see

Fatehi-767 e.g., col./line: 3/1-5, 64-67, 4/1-5).

Regarding claim 4, the modified invention disclosed wherein said optical network is a CATV network (Pimpinella Figure 2 #220).

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi et al. US 5,959,767 (Fatehi-767).

Regarding claim 10

Fatehi-767 does not disclose wherein multiple ones of said apparatus are hierarchically distributed within said network.

However, it would have been obvious to one of ordinary skill in the art at the time of invention to hierarchically distribute the selective switches in the network to geometrically expand the number of users accessible by the network as is well understood in the art.

7. Claims 3-6, 8, 9, and 12-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi et al. US 5,959,767 (Fatehi-767) in view of Pangrac et al. US 2001/0030785 A1 (Pangrac).

Regarding claims 4, the modified invention disclosed wherein said optical network is a CATV network (Pangrac p.5 Paragraph 0038). Pangrac disclosed a CATV network (p.5 Paragraph 0038). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Fatehi apparatus in the Pangrac CATV system to gain the benefits of a loss-less broadcasting system for CATV networks, see Fatehi-767 e.g., col./line: 3/1-5, 64-67, 4/1-5).

Regarding claim 13, Fatehi-767 does not disclose wherein the selective cross-connect apparatus is used in a CATV network with miniature fiber nodes. Pangrac disclosed a CATV network (p.5 Paragraph 0038) with miniature fiber nodes (figure 1 #105). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Fatehi apparatus in the Pangrac CATV system to gain the benefits of a loss-less broadcasting system for CATV networks, see Fatehi-767 e.g., col./line: 3/1-5, 64-67, 4/1-5).

Regarding claim 21,
Fatehi-767 does not disclose wherein the selective cross-connect

apparatus is used in a CATV distribution network with selective distribution of specified signals to miniature fiber nodes.

Pangrac disclosed a method for providing selective distribution of specified signals to miniature fiber nodes (figure 1 #105) in a network. It would have been obvious to one of ordinary skill in the art at the time of invention to use the apparatus in the Pangrac network so that a customer could select from the plurality of services offered in the network system.

Regarding claims 3, 14, 22

Fatehi-767 does not disclose

wherein said specified communication signals are contained on various optical wavelengths; one or more selected wavelengths being representative of a target service for said target recipients. Pangrac disclosed a WDM system where services are carried over different wavelengths (figure 1). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Fatehi apparatus in the Pangrac distribution system to gain the benefits of a loss-less broadcasting system for WDM networks such as PONs, see Fatehi-767 e.g., col./line: 3/1-5, 64-67, 4/1-5).

Regarding claims 5, 15

Fatehi-767 does not disclose wherein said network is dynamically reconfigurable depending on changing customer needs.

Pangrac disclosed a reconfigurable network based on user request (p.9 paragraph 0067).

It would have been obvious to one of ordinary skill in the art at the time of invention to have a dynamic reconfigurable feature in the network so that a customer could select from the plurality of services offered in the network system.

Regarding claims 6, 16, 23

Fatehi-767 does not disclose a controller coupled to cross-connect devices and said optical multiplexers, said controller being operable to track connections and signal distribution of said cross-connect devices and said optical multiplexer units to thereby determine usage of said specified communications signal by said targeted recipients.

Pangrac disclosed a bandwidth manager coupled to the cross-

Art Unit: 2633

connect devices able to track customer usage data (p.2 paragraph 0017). It would have been obvious to one of ordinary skill in the art at the time of invention to track usage data so as to bill customers for the actual service usage (p.2 paragraph 0017).

Regarding claim 17

Fatehi-767 disclosed wherein said cross-connects include M inputs and said optical multiplexers include N outputs, said connections between said cross-connect devices and said optical multiplexer units being divided into M/N groups (Fatehi - figure 4).

Regarding claims 8, 18, 24

Fatehi-767 does not disclose a power splitter for splitting an incoming optical signal into a given number of outputs. Pangrac disclosed a power splitter in a distribution system (p.3 paragraph 0023). It would have been obvious to one of ordinary skill in the art at the time of invention to use a power-splitter in the network so that signals could be replicated (fanned-out) in order to reach a larger service area.

Regarding claim 12,

Fatehi-767 does not disclose wherein the apparatus is used within a network with upstream communications.

Pangrac disclosed a network with upstream communications (p.5 paragraph 0038). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Fatehi-767 distribution apparatus in a network with upstream communications such as Pangrac's so that the network would be dynamic and responsive to customer commands rather than a traditional one-way broadcasting system.

Regarding claim 20

the modified invention of Fatehi-767 and Pangrac does not disclose wherein multiple ones of said apparatus are hierarchically distributed within said network. However, it would have been obvious to one of ordinary skill in the art at the time of invention to hierarchically distribute the selective switches in the network to geometrically expand the number of users accessible by the network as is well understood in the art.

Regarding claims 9, 19, 25

Fatehi-767 and Pangrac do not disclose wherein said optical network is a WDM network, further including one or more optical demultiplexing units respectively coupled between said power splitter and said cross-connect devices. Even so, Pangrac disclosed a power splitter in a distribution system (p.3 paragraph 0023). However, it would have been obvious to one of ordinary skill in the art at the time of invention to rearrange the demultiplexers between the power splitter and the cross-connect since it would be architecturally equivalent in result to having the splitter after the demultiplexer and is merely a matter of how high in the network signals should be replicated.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Dcp



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